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FILE 'REGISTRY' ENTERED AT 10:33:10 ON 14 OCT 2008  
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STRUCTURE FILE UPDATES: 12 OCT 2008 HIGHEST RN 1060442-20-7  
DICTIONARY FILE UPDATES: 12 OCT 2008 HIGHEST RN 1060442-20-7

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TSCA INFORMATION NOW CURRENT THROUGH July 5, 2008.

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on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

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(FILE 'HOME' ENTERED AT 09:25:04 ON 14 OCT 2008)

FILE 'HCAPLUS' ENTERED AT 09:25:15 ON 14 OCT 2008

L1 1 SEA ABB=ON PLU=ON US20060127750/PN  
SEL RN

FILE 'REGISTRY' ENTERED AT 09:25:44 ON 14 OCT 2008

L2 5 SEA ABB=ON PLU=ON (10045-86-0/BI OR 1314-56-3/BI OR  
7439-89-6/BI OR 7664-38-2/BI OR 7722-76-1/BI)  
D SCA

L3 1 SEA ABB=ON PLU=ON "PHOSPHORIC ACID"/CN

L4 1 SEA ABB=ON PLU=ON "PHOSPHORUS PENTOXIDE"/CN

L5 1 SEA ABB=ON PLU=ON "DIAMMONIUM HYDROGEN PHOSPHATE"/CN

FILE 'HCAPLUS' ENTERED AT 10:03:16 ON 14 OCT 2008

L6 QUE ABB=ON PLU=ON POSITIVE?(A) (ACTIVE? OR ELECTRODE)  
OR CATHODE

L7 76568 SEA ABB=ON PLU=ON L3

L8 678 SEA ABB=ON PLU=ON (L3 OR PHOSPHORIC(W)ACID OR H3PO4) (10  
A) L6

L9 22808 SEA ABB=ON PLU=ON L4

L10 206 SEA ABB=ON PLU=ON (L4 OR PHOSPHORUS(W) (OXIDE OR  
PENTOXIDE) OR P2O5) (10A) L6

L11 8077 SEA ABB=ON PLU=ON L5

L12 80 SEA ABB=ON PLU=ON (L5 OR DIAMMONIUM(W) (HYDROGENPHOSPHAT  
E OR HYDROGEN(W) PHOSPHATE)) (10A) L6

L13 1516 SEA ABB=ON PLU=ON L7 AND L9

L14 29 SEA ABB=ON PLU=ON L13 AND L6

L15 7 SEA ABB=ON PLU=ON L14 AND L11

L16 18 SEA ABB=ON PLU=ON L8 AND L10

L17 5 SEA ABB=ON PLU=ON L16 AND L12

October 14, 2008

10/531,191

2

L18 7 SEA ABB=ON PLU=ON L15 OR L17  
L19 12 SEA ABB=ON PLU=ON L16 NOT L18  
L20 9 SEA ABB=ON PLU=ON ((L18 OR L19)) AND (PY<=2002 OR  
PRY<=2002 OR AY<=2002)  
L21 1 SEA ABB=ON PLU=ON L18 AND L20  
L22 8 SEA ABB=ON PLU=ON L19 AND L20

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 10:33:13 ON 14 OCT 2008

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FILE COVERS 1907 - 14 Oct 2008 VOL 149 ISS 16

FILE LAST UPDATED: 12 Oct 2008 (20081012/ED)

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2008.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d ibib abs hitstr hitind l21

L21 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:359265 HCAPLUS Full-text

DOCUMENT NUMBER: 146:530855

TITLE: A process for preparing a Eu-activated phosphate polycrystalline ceramic phosphor composition simultaneously emitting red and green light for use in luminescent display screen and compact fluorescent lamps

INVENTOR(S): Mahapatra, Gourkrishna Das; Debnath, Radhaballabh; Sahoo, Rampada; Chaudhuri, Ahindra Kumar

PATENT ASSIGNEE(S): Council of Scientific and Industrial Research, India

SOURCE: Indian Pat. Appl., 9pp.

CODEN: INXXBQ

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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October 14, 2008

10/531,191

3

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IN 2000DE00611

A

20060317

IN 2000-DE611

200006  
23

PRIORITY APPLN. INFO.:

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IN 2000-DE611

200006  
23

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AB This invention relates to a process for preparing a novel polycryst. ceramic phosphor composition which can generate simultaneously both red and green intense luminescence upon excitation either with UV light or with energetic electrons from a cathode ray-tube and is useful as a light emitting material of a fluorescent lamp and a visual display screen. The fabrication process entails preparing a homogeneous mixture of 30-50 mol.% phosphorous pentoxide (P2O5) and 25-50 mol.% of aluminum ion (Al+3) either in the form of oxide or nitrate or phosphate or halide, adding 30-45 mol.% of an alkaline earth metal ion either in the form of oxide (MO) or halide (MX) or a mixture thereof where M=Ca, Mg, Sr, Ba, adding to the mixture 0-12 mol.% of any one of the oxide from La2O3, Y2O3, Zr2O3, adding Eu+3 ion in the mixture in an overall concentration range of 3-7 mol.%, firing the reaction mixture in the range of temperature of 200-1200°, crushing the reaction product in to powder followed by crystallizing the powder into micro crystals of uniform particle size by heat treating at a temperature range of 800-1200° for 5-12 h under inert atmospheric

IT 1314-56-3, Phosphorus oxide (P2O5), processes  
7664-38-2, Orthophosphoric acid, processes 7783-28-0  
, Di ammonium hydrogen phosphate

RL: PEP (Physical, engineering or chemical process); PROC (Process)  
(precursor; preparing Eu-activated polycryst. ceramic phosphor  
composition simultaneously emitting red and green light using)

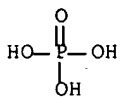
RN 1314-56-3 HCAPLUS

CN Phosphorus oxide (P2O5) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

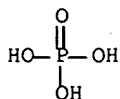
RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



RN 7783-28-0 HCAPLUS

CN Phosphoric acid, ammonium salt (1:2) (CA INDEX NAME)



●2 NH3

IC ICM C09K011-00  
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
Section cross-reference(s): 57  
IT 1304-28-5, Barium oxide, processes 1305-78-8, Calcium oxide (CaO), processes 1308-96-9, Europium oxide 1312-81-8, Lanthanum oxide 1314-23-4, Zirconium oxide, processes 1314-36-9, Yttrium oxide (Y2O3), processes 1314-56-3, Phosphorus oxide (P2O5), processes 1344-28-1, Alumina, processes 7664-38-2, Orthophosphoric acid, processes 7722-76-1, Ammonium di hydrogen phosphate 7783-28-0, Di ammonium hydrogen phosphate 7783-48-4, Strontium fluoride 7784-30-7, Aluminum orthophosphate 7789-75-5, Calcium fluoride, processes 10025-76-0, Europium chloride 10138-01-9, Europium nitrate 10361-37-2, Barium chloride, processes 10476-85-4, Strontium chloride 12060-18-3, Zirconium oxide (Zr2O3) 13473-90-0, Aluminum nitrate 13776-88-0  
RL: PEP (Physical, engineering or chemical process); PROC (Process) (precursor; preparing Eu-activated polycryst. ceramic phosphor composition simultaneously emitting red and green light using)

=> d ibib abs hitstr hitind 122 1-8

L22 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2004:893306 HCAPLUS Full-text  
DOCUMENT NUMBER: 142:77543  
TITLE: Process for producing lithium oxide-vanadium oxide glass for cathode material of lithium secondary cell  
INVENTOR(S): Son, Myung Mo  
PATENT ASSIGNEE(S): S. Korea  
SOURCE: Repub.. Korean Kongkae Taeho Kongbo, No pp. given  
CODEN: KRXXA7  
DOCUMENT TYPE: Patent  
LANGUAGE: Korean  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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KR 2001061077	A	20010707	KR 1999-63559	199912 28

PRIORITY APPLN. INFO.:

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KR 1999-63559  
199912  
28

AB Provided is a Li2O-V2O5 glass used for cathode material of a lithium secondary cell, especially a Li2O-Bi2O3-P2O5-V2O5 crystalline glass, which is chemical stable and has high charging and discharging capacity. The Li2O-Bi2O3-P2O5-V2O5 crystalline glass is produced by: setting a glass composition range at 5-50 mol% Li2O, 2-30 mol% Bi2O3, 3-40 mol% P2O5, and 30-90 mol% V2O5; mixing Li2CO3, H3PO4, Bi2O3, and V2O5 in the composition range and melting at 900-1000°C, then press molding the mixture using rollers; heat treating the molded product at 200-500°C to obtain the crystalline glass containing a LiVO3 fine crystal; grinding the glass and mixing with a binder and a conductive agent.  
IC ICM H01M004-36

October 14, 2008

10/531,191

5

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
Section cross-reference(s): 49, 57  
IT 554-13-2 7664-38-2, **Phosphoric acid**, uses  
RL: CPS (Chemical process); NUU (Other use, unclassified); PEP  
(Physical, engineering or chemical process); PROC (Process); USES  
(Uses)

(process for producing lithium oxide vanadium oxide glass for  
cathode material of lithium secondary cell)

IT 1304-76-3, Bismuth oxide (Bi<sub>2</sub>O<sub>3</sub>), uses 1314-56-3, Phosphorus oxide  
(P<sub>2</sub>O<sub>5</sub>), uses 1314-62-1, Vanadium oxide (V<sub>2</sub>O<sub>5</sub>), uses  
7439-93-2, Lithium, uses 12057-24-8, Lithium oxide (Li<sub>2</sub>O), uses  
RL: NUU (Other use, unclassified); TEM (Technical or engineered  
material use); USES (Uses)

(process for producing lithium oxide vanadium oxide glass for  
cathode material of lithium secondary cell)

L22 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:355270 HCAPLUS Full-text

DOCUMENT NUMBER: 140:360343

TITLE: Manufacture of cathode active mass for lithium  
battery and the battery

INVENTOR(S): Okada, Shigeto; Yamaki, Jun-ichi; Chen, Yike;  
Yamamoto, Takafumi; Hatta, Naoki

PATENT ASSIGNEE(S): Japan as Represented by President of the  
University of Kyusyu, Japan; Mitsui Engineering  
& Shipbuilding Co., Ltd.

SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2004036672	A1	20040429	WO 2003-JP13315	200310 17
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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2502596	A1	20040429	CA 2003-2502596	200310 17
<--				
AU 2003301468	A1	20040504	AU 2003-301468	200310 17
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October 14, 2008

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EP 1553648

A1

20050713

EP 2003-756676

200310  
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU,  
SK

CN 1706056

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20051207

CN 2003-80101663

200310  
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CN 100369302

C

20080213

US 20060127750

A1

20060615

US 2005-531191

200512  
12

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PRIORITY APPLN. INFO.:

JP 2002-303932

A

200210  
18

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WO 2003-JP13315

W

200310  
17

AB The cathode active mass, FePO<sub>4</sub> is prepared by dissolving Fe in a solution containing a PO<sub>4</sub><sup>3-</sup> releasing compound and sintering the reaction product. The compound is preferably selected from H<sub>3</sub>PO<sub>4</sub>, P<sub>2</sub>O<sub>5</sub>, and NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub>, and the active mass may be mixed with a conductive carbonaceous material and ground.

IT 1314-56-3, Phosphorus pentoxide,  
processes 7664-38-2, Phosphoric acid,  
processes

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(manufacture of iron phosphate cathode active mass for lithium battery)

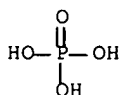
RN 1314-56-3 HCAPLUS

CN Phosphorus oxide (P<sub>2</sub>O<sub>5</sub>) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



IC ICM H01M004-58

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

IT 1314-56-3, Phosphorus pentoxide,

processes 7439-89-6, Iron, processes 7664-38-2,  
Phosphoric acid, processes 7722-76-1, Ammonium  
dihydrogen phosphate

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(manufacture of iron phosphate cathode active mass for lithium battery)

L22 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2004:355269 HCAPLUS Full-text  
 DOCUMENT NUMBER: 140:360342  
 TITLE: Manufacture of cathode active mass for secondary  
 battery and the battery  
 INVENTOR(S): Okada, Shigeto; Yamaki, Jun-ichi; Hatta, Naoki;  
 Uchiyama, Izumi; Inaba, Toshikazu  
 PATENT ASSIGNEE(S): Japan as Represented by President of the  
 University of Kyusyu, Japan; Mitsui Engineering  
 & Shipbuilding Co., Ltd.  
 SOURCE: PCT Int. Appl., 52 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004036671	A1	20040429	WO 2003-JP13314	200310 17
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CA 2502592	A1	20040429	CA 2003-2502592	200310 17
<--				
AU 2003301467	A1	20040504	AU 2003-301467	200310 17
<--				
EP 1553647	A1	20050713	EP 2003-756675	200310 17
<--				
CN 1706057	A	20051207	CN 2003-80101674	200310 17
<--				
CN 100359726	C	20080102		
US 20060147365	A1	20060706	US 2005-531196	200512 12

PRIORITY APPLN. INFO.:

<--  
JP 2002-303931 A 200210  
18

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WO 2003-JP13314 W 200310  
17

AB The cathode active mass,  $\text{LiFePO}_4$  is prepared by dissolving iron in a solution, containing a phosphate ion releasing compound and  $\text{H}_2\text{O}$ ; adding  $\text{Li}_2\text{CO}_3$ ,  $\text{LiOH}$ , or their hydrated to the solution; and sintering the reaction product. Preferably the sintering is carried out by heating from .apprx. $20^\circ$  to  $300\text{--}450^\circ$  in a 1st stage, adding a substance that will pyrolyze to produce a conductive carbonaceous material, e.g. bitumen or sugar, to the heat treated material, and heating from .apprx. $20^\circ$  to a final temperature in a 2nd stage.

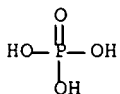
IT 7664-38-2, Phosphoric acid, processes

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(manufacture of **cathode** active mass containing pyrolytic conductive carbonaceous materials for secondary lithium batteries)

RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



IT 1314-56-3, Phosphorus pentoxide, uses

RL: NUU (Other use, unclassified); USES (Uses)

(manufacture of **cathode** active mass containing pyrolytic conductive carbonaceous materials for secondary lithium batteries)

RN 1314-56-3 HCAPLUS

CN Phosphorus oxide ( $\text{P}_2\text{O}_5$ ) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IC ICM H01M004-58

ICS C01B025-45

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

IT 1310-65-2, Lithium hydroxide 7439-89-6, Iron, processes

7664-38-2, Phosphoric acid, processes

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(manufacture of **cathode** active mass containing pyrolytic conductive carbonaceous materials for secondary lithium batteries)

IT 144-62-7, Oxalic acid, uses 1314-56-3, Phosphorus

pentoxide, uses 7647-01-0, Hydrochloric acid, uses

RL: NUU (Other use, unclassified); USES (Uses)

(manufacture of **cathode** active mass containing pyrolytic conductive carbonaceous materials for secondary lithium batteries)



October 14, 2008

10/531,191

9

ACCESSION NUMBER: 2001:210228 HCAPLUS Full-text  
DOCUMENT NUMBER: 134:240115  
TITLE: Lithium nickel oxide-based cathode material for  
secondary lithium battery and its manufacture  
INVENTOR(S): Yamamoto, Hiroshi; Terao, Koichi; Yonemura,  
Koji; Kamei, Kazuto  
PATENT ASSIGNEE(S): Sumitomo Metal Industries, Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001076724	A	20010323	JP 1999-249016	199909 02

PRIORITY APPLN. INFO.:

<--  
JP 1999-249016199909  
02

&lt;--

AB The cathode material comprise  $\text{Li}_x\text{Ni}_{1-y}\text{M}_y\text{O}_2$  ( $\text{M} = \text{Co}, \text{Mn}, \text{Fe}, \text{Al}; 0.95 \leq x < 1.1; y = 0-0.5$ ) containing Z oxide ( $\text{Z} = \text{B}$  and/or  $\text{P}$ ) with the atomic ratio of  $\text{Z}/(\text{Ni} + \text{M})$  0.001-0.1, in which Z is localized in amorphous oxides at the grain boundary to show the Li occupation at Li(3a) site  $\geq 95\%$ . The anode material is manufactured by blending (A) Ni compds., mixts. of Ni compds. and M compds., and/or M-Ni solid solns. with (B) Z (compds.), calcining the mixts., mixing thus obtained oxides with Li compds., and firing the mixts. in an oxidizing atmospheric. The cathode material shows improved thermal stability with keeping high capacity.

IT 1314-56-3, Phosphorus oxide, uses  
7664-38-2, Phosphoric acid, uses

RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)  
(manufacture of lithium nickel oxide-based cathode material for secondary lithium battery)

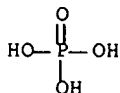
RN 1314-56-3 HCAPLUS

CN Phosphorus oxide (P2O5) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



IC ICM H01M004-58

ICS H01M004-02

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
Section cross-reference(s): 57

October 14, 2008

10/531,191

10

IT 1303-86-2, Boron oxide, uses 1314-56-3, Phosphorus  
oxide, uses 7664-38-2, Phosphoric  
acid, uses 10043-35-3, Boric acid, uses  
RL: MOA (Modifier or additive use); PEP (Physical, engineering or  
chemical process); PROC (Process); USES (Uses)  
(manufacture of lithium nickel oxide-based **cathode** material  
for secondary lithium battery)

L22 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 1994:275447 HCAPLUS Full-text  
DOCUMENT NUMBER: 120:275447  
ORIGINAL REFERENCE NO.: 120:48679a,48682a  
TITLE: Lithium batteries  
INVENTOR(S): Yumiba, Hideaki; Matsumoto, Kazunobu; Kawakami,  
Akira  
PATENT ASSIGNEE(S): Hitachi Maxell, Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06020691	A	19940128	JP 1992-199112	199207 01

PRIORITY APPLN. INFO.:

JP 1992-199112

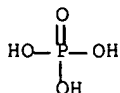
199207  
01

AB Li batteries comprise organic electrolytes, Li-containing materials as anode  
active mass, and **cathode** active mass containing CuO- P2O5 base compds. and Li  
compound additives. The batteries inhibit voltage drop in initial  
discharging. Thus, a LiOH.H2O aqueous solution was added and mixed with  
Cu4O(PO4)2 powders, and heated to give a cathode active mass which was used  
for a Li battery.

IT 7664-38-2P, Phosphoric acid, preparation  
RL: PREP (Preparation)  
(copper oxide phosphate from, for **cathodes** for lithium  
batteries)

RN 7664-38-2 HCAPLUS

CN Phosphoric acid (CA INDEX NAME)



IC ICM H01M004-58  
ICS H01M004-02; H01M010-40  
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
ST battery **cathode** copper phosphorus oxide  
; lithium battery cathode copper oxide phosphate

IT **Cathodes**  
(battery, copper phosphorus oxide, lithium  
compds.-containing)  
IT 7439-93-2, Lithium, uses  
RL: USES (Uses)  
(batteries, copper phosphorus oxide  
cathodes for, lithium compds.-containing)  
IT 1310-65-2, Lithium hydroxide  
RL: USES (Uses)  
(cathodes containing, copper phosphorus  
oxide, for lithium batteries)  
IT 1317-38-0P, Copper oxide (CuO), preparation 7664-38-2P,  
Phosphoric acid, preparation  
RL: PREP (Preparation)  
(copper oxide phosphate from, for cathodes for lithium  
batteries)

L22 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 1990:594848 HCAPLUS Full-text  
DOCUMENT NUMBER: 113:194848  
ORIGINAL REFERENCE NO.: 113:32939a  
TITLE: Secondary nonaqueous batteries  
INVENTOR(S): Yamaki, Junichi; Sakurai, Yoji; Mochizuki, Yuji;  
Tsuchia, Kenji; Inada, Kuniaki  
PATENT ASSIGNEE(S): Nippon Telegraph and Telephone Corp., Japan;  
Toshiba Battery Co., Ltd.  
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02054869	A	19900223	JP 1988-206090	198808 19

PRIORITY APPLN. INFO.: JP 1988-206090  
198808  
19

AB The batteries have a light metal anode and a H<sub>3</sub>PO<sub>4</sub> compound-containing  
amorphous V oxide cathode, where the cathode-active mass has a water content  
<0.25%. These batteries have high capacity and especially long cycle life.

IT 1314-56-3, Phosphorus pentoxide, uses  
and miscellaneous  
RL: USES (Uses)  
(cathodes containing, vanadium oxide, tolerance limit of  
water content in, for batteries)

RN 1314-56-3 HCAPLUS  
CN Phosphorus oxide (P<sub>2</sub>O<sub>5</sub>) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IC ICM H01M004-48  
ICS H01M004-02; H01M004-58  
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
ST battery vanadium oxide cathode; moisture vanadium oxide battery

cathode; phosphoric acid vanadium oxide

cathode

IT Cathodes

(battery, vanadium oxide, containing phosphorus  
oxide, tolerance limit of water content in amorphous)

IT 1314-56-3, Phosphorus pentoxide, uses  
and miscellaneous

RL: USES (Uses)

(cathodes containing, vanadium oxide, tolerance limit of  
water content in, for batteries)

IT 1314-62-1, Vanadium pentoxide, uses and miscellaneous

RL: USES (Uses)

(cathodes, containing phosphorus oxide,  
tolerance limit of water content in, for batteries)

IT 7732-18-5, Water, uses and miscellaneous

RL: USES (Uses)

(tolerance limit of, in vanadium oxide cathodes containing  
phosphorus oxide, for batteries)

L22 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1990:59721 HCAPLUS Full-text

DOCUMENT NUMBER: 112:59721

ORIGINAL REFERENCE NO.: 112:10207a,10210a

TITLE: Fuel-cell stacks with monolithic unit cells

INVENTOR(S): Uozumi, Shohei; Miki, Atsushi

PATENT ASSIGNEE(S): Hitachi, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01176665	A	19890713	JP 1988-110	19880105

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PRIORITY APPLN. INFO.:

JP 1988-110

19880105

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AB The stacks have unit cells comprising an electrolyte matrix between a cathode and anode, air chambers, fuel gas chambers, and separators for separating the air and fuel gas chambers. The unit cells are made into monolithic bodies by molding the peripheries of the electrodes and the electrolyte matrix with a resin. The resin is preferably transparent, e.g. a C2F4-perfluoroalkoxyethylene copolymer. The electrolyte matrix is larger than the cathode and possibly larger than the anode with grooves formed on the portions not covered by the cathode and a H3PO4- or P2O5-containing material filled in the grooves to form seals. The monolithic unit cells are gastight.

IC ICM H01M008-02

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
Section cross-reference(s): 38

L22 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1977:19094 HCAPLUS Full-text

October 14, 2008

10/531,191

13

DOCUMENT NUMBER: 86:19094  
 ORIGINAL REFERENCE NO.: 86:3075a,3078a  
 TITLE: Purification of phosphoric acid  
 INVENTOR(S): Ueda, Shiro; Mochinaga, Junichi; Sasaki, Yoshinori; Igarashi, Kazuo; Sato, Ichiro  
 PATENT ASSIGNEE(S): Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 51106696	A	19760921	JP 1975-31054	197503 17
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PRIORITY APPLN. INFO.:			JP 1975-31054	A 197503 17

AB An electrodialyzer consisting of cathode, middle, and anode chambers partitioned by anion-and cation-exchange membranes is used for purification of crude H<sub>3</sub>PO<sub>4</sub>. Crude H<sub>3</sub>PO<sub>4</sub>, dilute H<sub>3</sub>PO<sub>4</sub> purer than the crude H<sub>3</sub>PO<sub>4</sub>, and an acid solution are fed into the cathode, middle, and anode chambers, resp., and refined H<sub>3</sub>PO<sub>4</sub> is obtained from the middle chamber by electrodialysis. Thus, crude H<sub>3</sub>PO<sub>4</sub> (P<sub>2</sub>O<sub>5</sub> 24.4, SO<sub>4</sub> 0.0012, Cl 0.0006, F 0.13, Fe 0.24, Al 0.15, Ca 0.0006, As 0.00087, Si 0.011, Cr 0.009, V 0.005%), dilute H<sub>3</sub>PO<sub>4</sub> containing 3.6% P<sub>2</sub>O<sub>5</sub>, and 18% H<sub>2</sub>SO<sub>4</sub> 250 ml each were charged into the cathode, middle, and anode chambers, in an electrodialyzer, resp., and electrodialyzed at 1.15 A/dm<sup>2</sup> and 26° for 10 hr. The refined H<sub>3</sub>PO<sub>4</sub> contained P<sub>2</sub>O<sub>5</sub> 8.94, SO<sub>4</sub> 0.0007, Cl 0.0002, F 0.004, Fe 0.0008, Al 0.0006, Ca < 0.00004, As 0.00008, Si 0.0013, Cr < 0.0001, and V < 0.00005%.

IC C01B025-18  
 CC 49-2 (Industrial Inorganic Chemicals)

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